Federal Communications Commission
Office of Engineering and Technology
Laboratory Division

September 30, 2005

OVERVIEW OF FEDERAL COMMUNICATIONS COMMISSION TELECOMMUNICATION CERTIFICATION BODY PROGRAM

Introduction

On December 17, 1998, the Federal Communications Commission (FCC) adopted rules for the establishment of Telecommunication Certification Bodies (TCB). A TCB is a private organization, which is authorized to issue grants, within its scope of designation, for equipment subject to the FCC's certification procedure. Under these rules, a TCB has the authority to review and grant an application for certification to the FCC rules. This order also established procedures for foreign TCBs under the terms of a government-to-government Mutual Recognition Agreement/Arrangement (MRA).

TCB Requirements

The requirements for TCBs were specified in the FCC's Report and Order in GEN Docket 98-68 (FCC 98-338) [1], adopted on December 17, 1998. Further information on the accreditation requirements for TCBs was given in Public Notice DA 99-1640, on August 17, 1999. The rules were revised under ET Docket 03-201 (FCC 04-165) adopted July 8, 2004. The designation process and the requirements that a TCB shall meet are contained in the FCC rules.

TCBs are required to be accredited in accordance with ISO/IEC Guide 65 (1996), *General Requirements for Bodies Operating Product Certification Systems* and the appropriate FCC Rules. In the United States this is done by the National Institute of Standards and Technology (NIST). NIST may allow, in accordance with its procedures, other appropriate qualified accrediting bodies to accredit TCBs. NIST has recognized the American National Standards Institute (ANSI) ISO/IEC Guide 65 accreditation for the TCB product certification program.

Certification bodies located outside of the United States may be recognized as a TCB when there is a government-to-government MRA between the country they are located in and the United States[2]. It is the responsibility of the designating authority in that country to assess the competence of the TCB.

The organization accrediting the prospective TCB shall be capable of meeting the requirements and conditions in ISO/IEC Guide 61, *General Requirements for Assessment and Accreditation of*

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[1] See 47 CFR Sections 2.960 to 2.962 and 68.160 to 68.162.

[2] See 47 CFR Section 2.960(c).

Certification/Registration Bodies[3].

Accreditation Requirements

A TCB is required to be accredited to both[4]:

1. ISO/IEC Guide 65 (1996), *General requirements for bodies operating certification systems;* and

2. ISO/IEC Standard 17025 (1999)[5], *General requirements for the competence of testing and calibration laboratories.*

The FCC's Equipment Authorization Program consists of: (1) Testing by a test laboratory; and (2) Evaluation[6] and Decision on Certification[7] by the TCB. The decision on certification (grant of certification) is a separate and distinct function from the evaluation of an application. These two responsibilities of a TCB cannot be combined.[8] Evaluation, as used by the FCC, is the process of reviewing the test report, technical data and other information submitted with the application for certification against the FCC Rules, and interpretations thereof, to determine compliance of a product with the FCC Rules. Based on the results of the evaluation a decision is made as to whether or not the product is to be certified.

A TCB is required to have the capability and test equipment necessary to perform testing to a "core" set of tests, for each scope of accreditation. To ensure that it is capable of performing the tests within their scope of accreditation, the TCB shall be accredited to ISO/IEC Standard 17025 with an appropriate scope of accreditation.

The TCB certification personnel and the TCB accredited test laboratory may be in different physical locations as long as they are both located within the same country. In such cases the TCB shall show what procedures are in place to provide reasonable access to the test facility by the certification personnel. An employee who evaluates applications for certification shall have access to appropriate test facilities and be able to test equipment for their given area of expertise, when necessary. The ability to perform such testing by the certification personnel, who perform

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[3] ISO/IEC Guide 61 is in the process of being replaced by ISO/IEC Standard 17011 (2004), *Conformity assessment - General requirements for accreditation bodies accrediting conformity assessment bodies*

[4] ISO/IEC documents are available through the American National Standards Institute, http://webstore.ansi.org/ansidocstore/default.asp.

[5] ISO/IEC 17025 (1999) has recently been revised and a new edition published as ISO/IEC 17025 (2005) *General requirements for the competence of testing and calibration laboratories*. Accreditation by a TCB to ISO/IEC 17025 (2005) is considered acceptable to meet this requirement.

[6] See clause 10 of ISO/IEC Guide 65 (1996).

[7] See clause 12 of ISO/IEC Guide 65 (1996).

[8] See clause 4.2(f) of ISO/IEC Guide 65 (1996).

the evaluation function, shall be considered during the ISO/IEC Guide 65 assessment.

To Apply for ISO/IEC Guide 65 Accreditation

Those organizations, in the United States, desiring ISO/IEC Guide 65 accreditation as a TCB, should contact the American National Standards Institute (ANSI).

Mr. Reinaldo Figueiredo
American National Standards Institute
Director, Conformity Assessment
1819 L Street, NW
Washington, DC 20036

Tel: 202-331-3611
Fax: 202-293-9287
E-mail: rfigueir@ansi.org

Web Page: www.ansi.org

For organizations outside of the United States, they should determine if there is a MRA that covers their location and then contact the designating authority for their country. Information regarding applicable MRAs can be found on the NIST webpage. See http://ts.nist.gov/ts/htdocs/210/gsig/mra.htm

TCB Scopes of Accreditation

TCBs may be accredited to certify products to one or more of the following scopes of accreditation. It is not necessary to be accredited to all of Scope A, B or C. The TCB may choose which of the following scopes they wish to be accredited to perform.

Scope A – Unlicensed Radio Frequency Devices	
A1	Low power transmitters operating on frequencies below 1 GHz (with the exception of spread spectrum devices), emergency alert systems, unintentional radiators (e.g., personal computers and associated peripherals and TV Interface Devices) and consumer ISM devices subject to certification (e.g., microwave ovens, RF lighting and other consumer ISM devices)
A2	Low power transmitters operating on frequencies above 1 GHz, with the exception of spread spectrum devices
A3	Unlicensed Personal Communication Service (PCS) Devices
A4	Unlicensed National Information Infrastructure (UNII) devices and low power transmitters using spread spectrum techniques
Scope B – Licensed Radio Service Equipment	
B1	Personal Mobile Radio Services in 47 CFR Parts 22 (cellular), 24, 25, and 27

B2	General Mobile Radio Services in the following 47 CFR Parts 22 (non-cellular), 73, 74, 90, 95 and 97
B3	Maritime and Aviation Radio Services in 47 CFR Parts 80 and 87
B4	Microwave Radio Services in 47 CFR Parts 27, 74 and 101
Scope C – Telephone Terminal Equipment	
C1	Telephone terminal equipment in 47 CFR Part 68

TCB Exclusion List

A TCB shall not certify equipment where a published measurement procedure does not exist, that is acceptable to the FCC, and shall not certify equipment that is regarded by the FCC as new technology until such time as the FCC notifies the TCBs to the contrary. TCB exclusion lists are found in Knowledge Database (KDB)[9] Publication No. 628591.

Scope of Accreditation for TCB Laboratory

Laboratory accreditation bodies may have different approaches of defining scopes of accreditation. The Commission has not prescribed the specific wording that must appear on a TCB's ISO/IEC 17025 scope of accreditation. However, the following list identifies the required regulations and procedures that shall be covered by the scope of accreditation for the TCB laboratory.[10] It should be noted that further guidance on the measurement techniques to be used for a given regulation may be found in the associated report and order, FCC public notice, FCC bulletin or interpretation found on the FCC KDB. The 17025 scope of accreditation for the TCB laboratory shall include the following:

Scope A – Unlicensed Radio Frequency Devices	
A1	1. 47 CFR Parts 11 *(Emergency Alert System (EAS))*, 15 (*Radio Frequency Devices)* and 18 *(Industrial, Scientific, and Medical Equipment)* 2. FCC MP-5, (February 1986) *FCC Methods of Measurements of Radio Noise Emissions From Industrial, Scientific, and Medical Equipment* 3. ANSI C63.4-2003, *American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz*

[9] Knowledge Database (KDB) is an online database of policies, procedures and common equipment authorization questions. It is located on the FCC webpage. See www.fcc.gov/labhelp

[10] See the FCC equipment authorization web page for links to the referenced measurement techniques. http://www.fcc.gov/oet/ea/eameasurements.html)

A2	1. 47 CFR Part 15, *Radio Frequency Devices* 2. ANSI C63.4-2003, *American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz*
A3	1. 47 CFR Part 15, *Radio Frequency Devices* 2. ANSI C63.17-1998, *American National Standard for Methods of Measurement of the Electromagnetic and Operational Compatibility of Unlicensed Personal Communications Services (UPCS) Devices* 3. ANSI C63.4-2003, *American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz*
A4	1. 47 CFR Part 15, *Radio Frequency Devices* 2. ANSI C63.4-2003, *American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz*
Scope B – Licensed Radio Service Equipment	
B1	1. 47 CFR Parts 2 (*Frequency Allocations and Radio Treaty Matters; General Rules and Regulations*), 22 (*Public Mobile Services*), 24 (*Personal Communications Services*), 25 (*Satellite Communications)*, and 27 (*Miscellaneous Wireless Communications Services*) 2. ANSI/TIA-603-C (2004), *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*
B2	1. 47 CFR Parts 2 (*Frequency Allocations and Radio Treaty Matters; General Rules and Regulations*), 22 (*Public Mobile Services*), 74 (*Experimental Radio Auxiliary, Special Broadcast and Other Program Distributional Services*), 90 (*Private Land Mobile Radio Services*), 95 (*Personal Radio Services*), and 97 (*Amateur Radio Services*) 2. ANSI/TIA-603-C (2004), *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*
B3	1. 47 CFR Parts 2 (*Frequency Allocations and Radio Treaty Matters; General Rules and Regulations*), 80 *(Stations in the Maritime Services)* , and 87 (*Aviation Services*) 2. ANSI/TIA-603-C (2004), *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*
B4	1. 47 CFR Parts 2 (*Frequency Allocations and Radio Treaty Matters; General Rules and Regulations*), *27 (Broadband Radio Services (BRS) and Educational Broadband Services (EBS))*, 74 (*Experimental Radio Auxiliary, Special Broadcast and Other Program Distributional Services*), and 101 (*Fixed Microwave Services*) 2. ANSI/TIA-603-C (2004), *Land Mobile FM or PM Communications Equipment Measurement and Performance Standards*
Scope C – Telephone Terminal Equipment	
C1	1. 47 CFR Part 68, *Connection of Terminal Equipment to the Telephone Network*

	2. TIA-968-A (January 15, 2003), *Telecommunications -- Telephone Terminal Equipment -- Technical Requirements for Connection of Terminal Equipment to the Telephone Network (Upgrade and Revision of TIA/EIA/IS-968)*, including the following amendments: 2.1. TIA-968-A-1 (September 2, 2003), *Telecommunications – Telephone Terminal Equipment – Technical Requirements for Connection of Terminal Equipment to the Telephone Network – Addendum 1, TIA-968-A-1 (Addendum to TIA-968-A)* 2.2. TIA-968-A-2 (March 7, 2004), *Telecommunications - Telephone Terminal Equipment Technical Requirements for Connection of Terminal Equipment to the Telephone Network – Addendum 2, TIA-968-A-2* 3. T1.TRQ.6 (January 15, 2002*), Technical Requirements Document, SHDSL, HDSL2, HDSL4 Digital Subscriber Line Terminal Equipment to Prevent Harm to the Telephone Network* 4. TIA/EIA TSB-31-B (February 1, 1998), *Part 68 Rationale and Measurement Guidelines (1998)*

Transition Period for New Measurement Methods

It is recognized that it will take time for a TCB laboratory to update their ISO/IEC 17025 scope of accreditation when changes are made to the list of required test methods. To allow time for the TCB laboratory to update their scope of accreditation, a period of two years from the date of the new procedure being required by the FCC is allowed for the TCB laboratory to update their ISO/IEC 17025 scope of accreditation.

Core Test Equipment Requirements

Requirements for "core" test equipment are given in the FCC Public Notice, DA 99-1640, released: August 17, 1999. The TCB laboratory is required to have the test instrumentation needed to perform each of the "core" tests identified in the Public Notice. The TCB laboratory shall have the test equipment necessary to perform the "core" tests available during the ISO/IEC Guide 65 on-site assessment.

Key Personnel

As required in ISO/IEC Guide 65, clause 4.5.3(c) the TCB shall maintain a list of "the names, qualifications, experience and terms of reference of the senior executive and other certification personnel, both internal and external."

As required in ISO/IEC Guide 65 clause 5.2.3, information on the relevant qualifications, training and experience of each member of the personnel involved in the certification process shall be maintained by the certification body. Records of training and experience shall be kept up to date, in particular the following:

1. Name and address

2. Organization affiliation and position held

3. Educational qualification and professional status

4. Experience and training in each field of the certification body's competence

5. Date of most recent updating of records

6. Performance appraisal

Each employee that performs the certification functions of evaluation and decision on certification shall be physically present during at least one assessment every two years. When not physically present at an assessment, the employee shall be available by phone, as needed. The accreditation body may request in advance of an assessment that the personnel involved with a particular area of interest be physically present during an assessment.

A TCB shall notify their designating authority within 30 days of any changes in key employees. The TCB may be subject to a reassessment when there is a change in key employees that affects the technical competence of the TCB.

Contract Employees

A TCB may utilize a contract employee to evaluate applications subject to the following:

1. The TCB procedures ensure that each decision on certification is taken by a person(s) different from those who carried out the evaluation.

2. The grant of certification is the responsibility of and shall be issued by the TCB recognized by the FCC.

3. All the procedures in the TCB's quality manual are appropriately applied in the evaluation and granting of certification.

4. Adequate oversight and quality control procedures are in place to ensure that all applications for certification are evaluated consistently.

5. The employee who evaluates applications for certification, as well as the person making the decision for granting certification are considered key employees.

6. The key employee who evaluates applications for certification may be a contract employee. The key employee who makes the final decision on certification may not be a contract employee.

7. A contract employee shall not work for, or otherwise be associated with, a manufacturer of equipment subject to certification that the contract employee is involved with. The TCB shall maintain it's impartiality as required by ISO/IEC Guide 65[11].

8. The contract under which the employee works will be reviewed during the assessment to ensure that all TCB and Guide 65 requirements are met.

[11] See clause 4.2(a) of ISO/IEC Guide 65 (1996).

9. An employee who evaluates applications for certification shall have access to appropriate test facilities and be able to test equipment, when necessary.

Maintenance of Information on TCBs

TCBs are expected to keep the FCC informed of current contact information as shown in FCC database (https://gullfoss2.fcc.gov/oetwl/index.html.) TCBs shall notify their designating authority when there are changes to key information such as changes in the key employees, address, name, and accreditation expiration date. For TCBs located in the United States, the TCB shall contact the National Institute of Standards and Technology (NIST). For TCBs operating outside of the United States, under the terms of a government-to-government MRA, the TCB shall contact their designating authority to report any changes. The designating authority will then update the information in the FCC database.

TCB Training Participation

As required in ISO/IEC Guide 65, clause 5.2, the TCB shall maintain information on the relevant qualifications, training and experience of each member of the personnel involved in the certification process. The FCC has provided training in the areas of: (1) Basic EMC requirements, (2) General RF exposure requirements, and (3) Part 22H/24E handset RF exposure requirements. At a minimum the TCB shall provide records demonstrating that each of their personnel that perform an evaluation of products subject to certification has successfully completed training covering their area of operation. The TCB as an entity shall have personnel trained covering their scope as a TCB. This training may consist of either attendance at one of the training courses, watching a video recording of the training or another method that is deemed equivalent by the FCC.

TCBs are also strongly encouraged to participate in additional training opportunities including, TCB conference calls with the FCC, and TCB Workshops.

TCB Acceptance of Test Data

Equipment subject to certification under Part 15 or 18 of the FCC Rules are required to be tested at measurement facilities that have either been listed with the FCC or at a recognized accredited testing laboratory.[12] The listing of a test site applies to a specific test facility. When filing an application for certification the TCB is required to enter the name of the test site from the list of recognized test sites as shown in the Equipment Authorization System (EAS).

Section 2.962(f)(2) states that "a TCB shall accept test data from any source, subject to the requirements in ISO/IEC Guide 65, and shall not unnecessarily repeat tests." ISO/IEC Guide 65, Paragraph 4.3 requires that the certification body observe, as appropriate, the requirements for the suitability and competence of bodies or persons carrying out testing as specified in ISO/IEC Standard 17025.

When accepting test data in support of an application for certification, the TCB shall review the test report and needs to be confident that the product meets the relevant requirements before it

[12] See 47 CFR 2.948(a)(2).

certifies the product. The process used by the TCB for the acceptance of test data will be reviewed during the ISO/IEC Guide 65 assessment. For certification to 47 CFR parts 15 and 18, under scope A, the TCB at a minimum needs to require that the product be tested at measurement facilities that have either been listed with the FCC or at a recognized accredited testing laboratory. For certification to the licensed device rule sections of 47 CFR, under scope B, the TCB shall have confidence in the test data as established under the TCB procedure for acceptance of test data.

When reviewing the application for certification, including the test report, the TCB should evaluate the following elements of the application for certification to determine the suitability the test data:

1. Clearly defined test procedures
2. Method of test validation
3. Clearly defined test configurations
4. A brief description of the test facilities – photo(s) and block diagram(s) of test setup
5. Calibration dates and traceability of all test equipment

Records Retention

The TCB shall retain for five years all documentation associated with the approval of a product subject to certification by the FCC.

TCB Auditing Requirements

Section 2.962(g)(2) requires a TCB to conduct appropriate post-market surveillance activities. These activities shall be based on type testing a few samples of the total number of product types that the TCB has certified. Other types of surveillance activities of a product that has been certified are permitted provided they are no more onerous than type testing. The FCC has provided guidance in KDB Publication No. 610077, for performing post-market surveillance.

List of TCBs

A list of recognized TCBs and their scope of accreditation is located on the FCC webpage at https://gullfoss2.fcc.gov/oetwl/index.html. The TCB search link will allow you to search for a specific TCB or if you leave the search fields blank you will get a listing of all the TCBs.

References

1. FCC 98-338, GEN Docket 98-68, *Streamline The Equipment Authorization Process for Radio Frequency Equipment, Modify the Equipment Authorization Process for Telephone Terminal Equipment, and Implement Mutual Recognition Agreements.* http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-98-338A1.pdf

2. DA 00-1223, *OET and CCB Announce The Designation Of Telecommunication*

Certification Bodies (TCBs) to Approve Radiofrequency and Telephone Terminal Equipment.
http://www.fcc.gov/Bureaus/Engineering_Technology/Public_Notices/2000/da001223.pdf

3. DA 01-180, *European Conformity Assessment Bodies Accepted to Certify or Test Radiofrequency and Telephone Terminal Equipment in Accordance with the Terms of the US-EU Mutual Recognition Agreement.*
http://www.fcc.gov/Bureaus/Engineering_Technology/Public_Notices/2001/da010180.doc

4. DA 99-1640, *FCC Provides Further Information On The Accreditation Requirements For Telecommunication Certification Bodies GEN Docket 98-68.*
http://www.fcc.gov/Bureaus/Engineering_Technology/Public_Notices/1999/da991640.doc

5. DA 00-2224, *FCC Will No Longer Accept Equipment Authorization Applications For Class B Computers and Peripheral that Can Be Self-Approved.*
http://www.fcc.gov/Bureaus/Engineering_Technology/Public_Notices/2000/da002224.doc